

S1 Table. Strategies used to diagnose *Taenia solium* taeniasis

Study ID	Microscopy	Macroscopy – scolex, number of uterine branches	Copro-Ag	Observations regarding approach to <i>Taenia</i> spp. identification
Allan 1990	Formal-ether concentration (Ritchie 1948)		Copro-Ag-ELISA (Allan et al. 1990)	<i>Taenia</i> egg identification (microscopy) and Copro-Ag-ELISA were used. Microscopy, as a copro-parasitologic tool, does not allow the distinction between <i>Taenia</i> spp. eggs; and the coproantigen detection methodology (Allan et al. 1990) is genus specific, which allows for cross-reactions with other <i>Taenia</i> species. Thus, the approach for <i>Taenia</i> identification was non-species specific (NSS) .
Braae 2017			Copro-Ag-ELISA (Allan et al. 1990)	An attempt to differentiate <i>T. solium</i> from <i>T. saginata</i> using a copro-Ag-ELISA (Allan et al. 1990) was made, with slight modification (Mwape et al. 2012). The approach was NSS . See above.
Bustos 2012		Tapeworm scolex identification	Copro-Ag-ELISA (Allan et al. 1990)	Macroscopic search for proglottids and scolexes in feces was performed. Follow-up stool samples were processed for both microscopy and Copro-Ag-ELISA (Allan et al. 1990). There was no proglottid count of uterine branches. The approach was NSS .
Cruz 1989	Kato-Katz technique (follow-up only)	Macro examination of participants self-collected tapeworms (baseline)		Baseline - 'a plastic bag was given to participants ... to collect the tapeworms expelled.' These were only inspected macroscopically. No further count of proglottid uterine branches was made. Follow-up was based on Kato-Katz examination. The approach was NSS .
de Kaminsky 1991	Kato-Katz and scotch tape perianal swab (STPS) techniques	Macro examination of participants self-collected proglottids		This study aimed at testing 3 methods to determine the prevalence of <i>T. solium</i> : 1) history of proglottid expulsion where participants 'were requested to recover proglottids ... fixed in 10% formalin ... for permanent carmine staining of species identification'; 2) Kato -Katz technique; and 3) STPS. Proglottids and strobila collection were low; no counting of proglottid uterine branches was made; and microscopic techniques (Kato-Katz and STPS) were used. The strategy was NSS .

Study ID	Microscopy	Macroscopy – scolex, number of uterine branches	Copro-Ag	Observations regarding approach to <i>Taenia</i> spp. identification
Diaz Camacho 1991	Methods by Faust et al; Ritchie; and Martin and Beaver were used.	Microscopic examination of recovered scolexes and proglottids, including measurement of uterine branches.		Microscopic stool examination was carried out using 3 separate methods. <i>Taenia</i> spp. positives (eggs) received treatment, followed by castor oil 1h later. Participants were asked to collect their stools (worms) for further analysis (sieving method of Salazar-Chettino and De Haro). Microscopic examination of scolexes, proglottids and counting of uterine branches were performed. Also, serology (ELISA following Larralde et al. 1986) was carried out. The methodology was species-specific at baseline.
Groll 1980	Egg identification, technique not specified	Proglottid search. No identification of uterine branches.		For this study, proglottids and eggs were identified but no methodology is described other than to state: 'stools were examined by well documented techniques according to routine methods...' There was no proglottid count of uterine branches. The methodology was NSS .
Jagota 1986	Kato-Katz; STPS and egg count/g of stool			Fecal examination by the direct method and ova counts by the Kato-Katz method were used as identification techniques. The study methodology was NSS .
Keilbach 1989	Coprological examination (egg count), following Faust	Fecal examination for proglottids		Coprological examination found 3% (24/760) of participants with taeniasis. Of these, 0.9% expelled proglottids/segments. A differential diagnosis (<i>T. solium</i> / <i>T. saginata</i>) was made, but no methodology is described. There was no proglottid count of uterine branches. The methodology was NSS .
Kumar 2014	Unstained, wet saline mount preparations; Ritchie	Macroscopic identification of scolexes, proglottids, or whole tapeworms.		Even though an attempt was made to look for proglottids/scolexes in the samples, there was no species differentiation. The methodology was NSS .
Moreira 1983	Sedimentation technique; Ritchie	Proglottid in feces.		A differential diagnosis between <i>T. solium</i> and <i>T. saginata</i> was made based on fecal examination of proglottids, or eggs. There was no count of proglottid uterine branches for further identification of the parasites. The methodology was NSS.

Study ID	Microscopy	Macroscopy – scolex, number of uterine branches	Copro-Ag	Observations regarding approach to <i>Taenia spp.</i> identification
O'Neal et al. 2014	Sedimentation technique; light microscopy identification	Scolex, including rostellar hooks identification. Proglottid search.	Copro-Ag-ELISA (Allan et al. 1996)	A comprehensive methodology was followed to establish a diagnosis of <i>T. solium</i> taeniasis. In addition to egg count and egg identification (microscopy), taeniid material was recovered, with the subsequent search for rostellar hooks on scolexes and the counting of uterine branches (≤ 10 branches in gravid proglottids were regarded as <i>T. solium</i> positive). Also, serology (EITBrES33) and ELISA tests were carried out. The methodology was species specific .
Okello 2016	Microscopy for egg identification	Proglottid identification	Copro-Ag-ELISA (Allan 1990). Copro PCR at the 12S rRNA locus.	A 3-step approach was used to identify <i>T. solium</i> in pre- and post-intervention fecal samples: 1) coproantigen identification of taeniid material (Allan and Craig 2006); 2) microscopy for genetic material (eggs/proglottids) search in Copro-Ag positives; and 3) PCR on all microscopy positives. Pre-intervention Copro-Ag-ELISA detected 37 cases of taeniasis (10 microscopy positives); of these 8 and 2 matched sequences of <i>T. solium</i> and <i>T. saginata</i> , respectively. Microscopy results varied greatly from those of Copro-Ag-ELISA (10/37, 27%). The methodology was species specific in a sub-sample .
Rim 1977	Cellophane thick smear and formalin-ether sedimentation methods.	Scolex and proglottid search pre- and post-treatment; also, identification of uterine branches.		<i>T. solium</i> was identified by macro- and microscopic inspection of taeniid material. Pre- and post-intervention fecal samples were collected (3 consecutive days each). Unfortunately, no scolexes were found and proglottids were destroyed by treatment, precluding uterine branch counting. The methodology was NSS .
Sarti 2000	Taenia egg detection (Ritchie 1948).		Co-Ag-ELISA (Allan et al. 1990)	Pooled results (coproantigen and egg detection) at T0 showed 16 cases of taeniasis diagnosed by Copro-Ag-ELISA, 11 by egg detection, and 6 by both methods. Similar discrepancies between the two methods were found at T1 and T2. The Co-Ag-ELISA test was based on Allan et al. 1990 and no other form of <i>T. solium</i> identification took place. The methodology was NSS .
Steinmann 2008	3 microscopy methods: Eggs/g (Kato-Katz); Koga agar plate; and Bearmann test			In this study, microscopy for egg count and egg and larvae identification were used. The methodology was NSS .

Study ID	Microscopy	Macroscopy – scolex, number of uterine branches	Copro-Ag	Observations regarding approach to <i>Taenia spp.</i> identification
Steinmann 2011	Kato-Katz thick smear technique	Visual inspection of proglottids		The primary outcomes for this study were cure rate/egg reduction rate. The focus was on proglottid recovery and egg identification of <i>Taenia spp.</i> The methodology was NSS .
Steinmann 2015	3 microscopy methods: Eggs/g (Kato-Katz); Koga agar plate; and Bearmann test	Visual inspection of <i>Taenia sp.</i> proglottids		A visual inspection of proglottids and 3 microscopy techniques were used as identification methods. The methodology was NSS .
Taylor 1995	Microscopy for egg identification			Microscopy was used for egg identification, but the authors do not specify by what technique, nor did they attempt to establish any species differentiation. The methodology was NSS .
Varma 1990	Microscopy for egg identification (technique no mentioned)	Tapeworm strobila/scolex recovery		This study aimed at establishing cure rate following treatment. The absence of taeniid material (scolexes, strobila or eggs) on samples was regarded as cure. The methodology was NSS .

NSS - non-species specific; STPS - scotch tape perianal swab; MDA – mass drug administration

References

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